

REMARKS

The Office Action, dated July 16, 2004, has been carefully reviewed and the foregoing amendment has been made in response thereto. Claims 1, 2, 10, 13, 18, 21 and 25 are amended. No new matter is added by the amendments to the claims.

Claims 1 and 3 stand rejected under 35 U.S.C. 102(b) as anticipated by Pearce (U.S. Patent 4,781,517). Claim 1 of this application has been amended to include reference to the frame rails being connected such that the rigid frame structure prevents movement of one frame rail relative to the other frame rail, and movement of the frame rails relative to a plane located above an upper surface of the object that is being processed. Figures 16-18 of the '517 patent, to which the Office action refers as a basis for rejecting Claims 1 and 3, show that items 525 are supported on respective frame rails, which move laterally toward and away from the automobile body so the vehicle doors can be lifted from an accumulator 500, rotated 90 degrees about a vertical axis, and then carried laterally to the side of the vehicle body for installation.

Elsewhere, the '517 patent shows in Figure 1 frame rails 24-27, which move laterally; in Figure 2, a cross member 24, which moves longitudinally along frame rails with the cross member carrying a tool that moves laterally on the cross member; and in Figure 3, two cross members that move along frame rails while carrying tools laterally.

Claim 1, as amended, states that the frame rails, legs, and cross support members are rigidly connected such that relative movement among them is prevented. The robot, supported on the frame rails, provides the necessary movement required to process the object without the components of the supporting frame moving. Claim 1 was amended to more particularly amplify the nature of the rigid support frame recited in the claims and illustrated in the figures of this application.

Claims 1-3, 7-9, 10, 12, 14, 16, 18, 19, 21, 25 and 26 stand rejected under 35 U.S.C. 103(a) as unpatentable over Takeo (the '630 patent) in view of Yamamoto (the '745 patent) and Pearce ('517 patent).

Takeo was cited for disclosing a pair of frame rails 11, a robot arm 5d mounted on each frame rail, and a tool 5f mounted on each robot arm. The Office action concedes that Takeo does not disclose two legs supporting the frame rails above the object, or a cross support member

connecting the frame rails. Yamamoto, therefore, was cited for disclosing painting robots located on a cross support member, which is supported on frame rails mounted on legs. The cross support members of the '745 patent connect the frame rails, but they do not form a rigid structure that prevents relative movement, as the present invention is defined by the amended claims.

The independent claims of this application, as amended, say that the support frame prevents movement of the frame rails and other members of the frame support. But Figure 16 of the '745 patent shows that the cross member 572 is raised and lowered on the legs 38. Furthermore, Figure 18 shows that the spray guns 574(a-i) are moved from the left side to the right side of the vehicle body and over the top of the body in a continuous arcuate path while holding the spray guns at a fixed distance from the surface of the body. This arcuate displacement of the spray guns occurs by actuating various drive motors, a lifting/lowering motor 92, a turning motor 100, and a transport motor 66. This movement of the cross support members relative to the frame rails is prevented in the present invention, as claimed.

The Office action concedes that Yamamoto does not teach placing robots on frame rails. In fact Yamamoto employs spray guns, not robots, for painting the vehicle body. Pearce (the '517 patent) was cited for disclosing a modular apparatus having frame rails and a cross member. As pointed out above, Pearce, like Yamamoto, teaches that relative movement between the frame rails and cross support members occurs in the frame support. Yamamoto teaches that the cross member is displaced vertically and longitudinally relative to the frame rails. The amended claims say that this movement among the components of the frame is prevented by the rigid connections of the frame of the present invention.

Furthermore, Yamamoto teaches away from the opposed configuration of the present invention, in which paint spraying robots are located at opposite lateral sides of the vehicle body. Figure 18 of Yamamoto clearly shows that the spray guns rotate from between the opposite lateral sides and over the top of the vehicle body so that a single row of spray guns is used to paint the entire vehicle body. In the opposed configuration of the present invention, paint spray devices carried on robot arms located at opposite sides of the path traversed by the vehicle body as it moves through the paint booth location, paint the vehicle body from opposite lateral

directions. It is inappropriate to combine the opposed spraying technique of Pearce with the conflicting, unopposed spraying technique of Yamamoto to reject the claims of this application.

Claims 1-30 remain in this application. Each prior art patent cited in the Office action either contains no reference to frame rails located above an upper plane of the object being processed, or describes a support frame that permits relative movement of the frame rails or the cross support members. Each of Claims 1-30 recites a rigid support frame that prevents relative movement among the recited components of the support frame.

Claims 1-30, as amended, having been distinguished patentably from the prior art appear now in condition for allowance. Favorable action is respectfully solicited.